

OPERATING SUMMARY

TD227
I46
W38
1974
MOE

c.1
a aa

TOWNSHIP OF
IGNACE

WATER POLLUTION CONTROL PLANT

LABORATORY & RESEARCH LIBRARY
MINISTRY OF THE ENVIRONMENT

LIBRARY COPY

OCT 20 1975

MINISTRY OF THE
ENVIRONMENT

LAB

1
9
7
4

Copyright Provisions and Restrictions on Copying:

This Ontario Ministry of the Environment work is protected by Crown copyright (unless otherwise indicated), which is held by the Queen's Printer for Ontario. It may be reproduced for non-commercial purposes if credit is given and Crown copyright is acknowledged.

It may not be reproduced, in all or in part, for any commercial purpose except under a licence from the Queen's Printer for Ontario.

For information on reproducing Government of Ontario works, please contact ServiceOntario Publications at copyright@ontario.ca



Ontario

MINISTRY OF THE ENVIRONMENT

MINISTER

Honourable William G. Newman

DEPUTY MINISTER

E. Biggs

ASSISTANT DEPUTY MINISTER

REGIONAL OPERATIONS

J. Barr

REGIONAL OPERATIONS DIVISION

DIRECTOR, NORTHWESTERN REGION

L. Pitura

MANAGER, UTILITY OPERATIONS

I. Munro

IGNACE TWP.

WATER POLLUTION CONTROL PLANT

MINISTRY OF THE ENVIRONMENT

1974 ANNUAL OPERATING SUMMARY

prepared by

Plant Performance Unit

TECHNICAL SERVICES BRANCH

T. Cross, Director



12/11/74
MSP 3VC
Canada

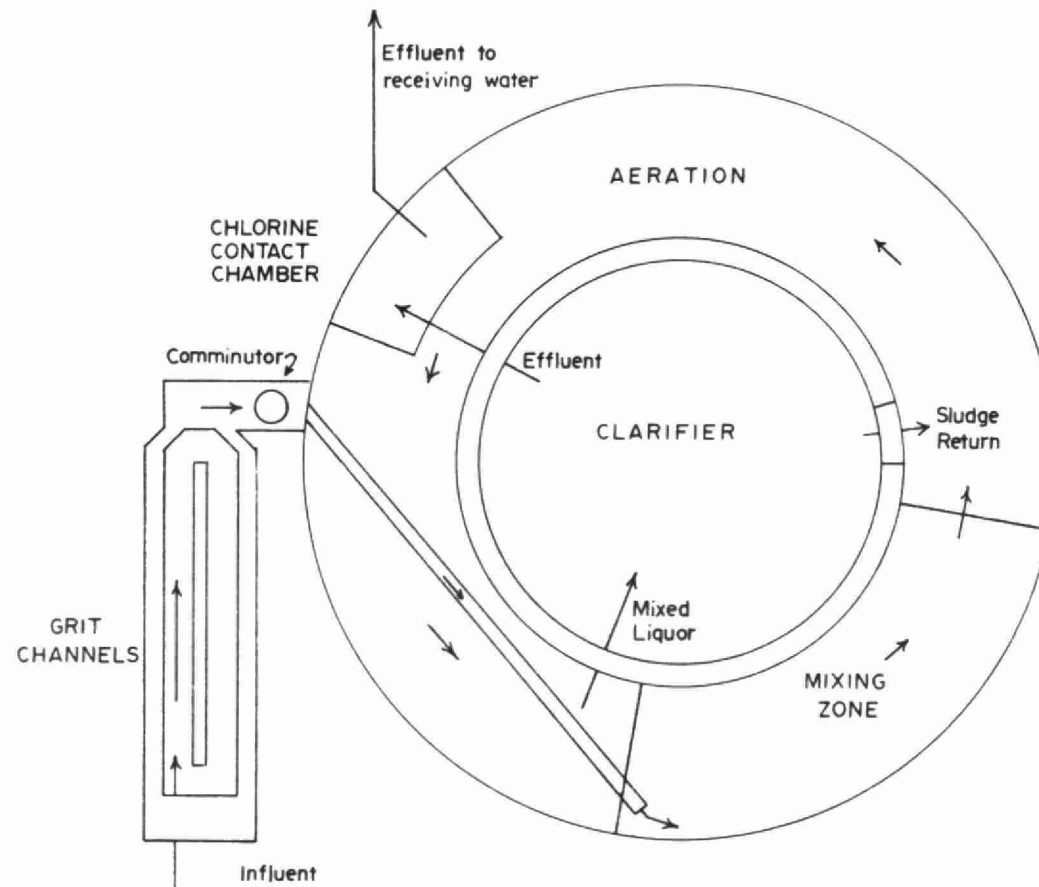
TD
227
I46
W38
1974
MOE

atfx

CONTENTS

Title Page	1
Flow Diagram	4
Design Data	5
Operating Cost	6
Process Data	8

IGNACE TWP.
WATER POLLUTION CONTROL PLANT



DESIGN DATA

Project: Ignace Twp. WPCP

Project No: 1-0060-67
Design Flow: 0.21 MIGD
Contact Stabilization
0.14 MIGD
Extended Aeration
Design Population: 2500
BOD: Raw Sewage - 285 lb/day

PRETREATMENT

PUMPING STATION:

Pumps: Two, Type: FLYGT CP3151
Size: 670 USGPM at 59' TDH

Bar Screen at pumping station inlet

GRIT CHANNELS:

Two, 25' x 2' x 2' swd
Volume: (each) 624 I. Gal.
Detention: (each) 4.2 min.

BIOLOGICAL TREATMENT (Extended Aeration)

MIXING ZONE:

Volume: 26,000 I. Gal. Detention: 3.0 hours

AERATION ZONE:

Volume: 113,000 I. Gal.

Blowers, Two, Type: Roots Connersville RA188
Size: 590 cfm

SETTLING ZONE:

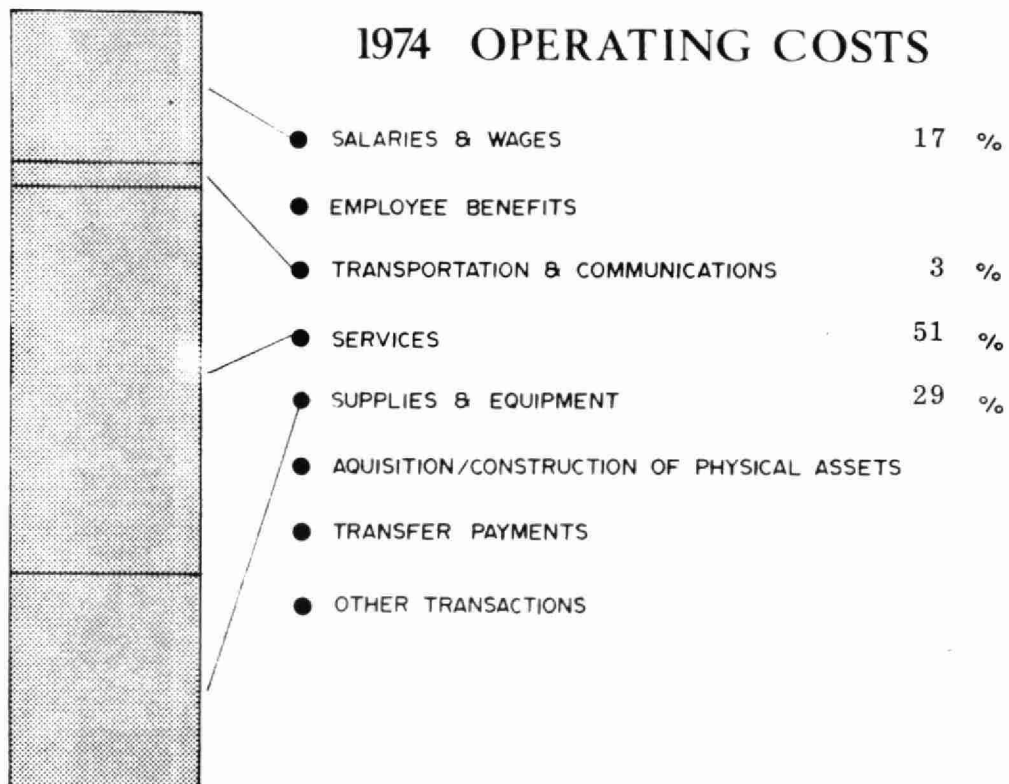
23'2" dia. x 12.6' awd
Volume: 37,000 I. Gal. Detention: 4.2 hours
Overflow Rate: 500 I. Gal/ft²/day

CHLORINE CONTACT ZONE:

Volume: 4300 I. Gal. Detention: 29 min.

ANNUAL COSTS

1974 OPERATING COSTS



YEARLY OPERATING COSTS

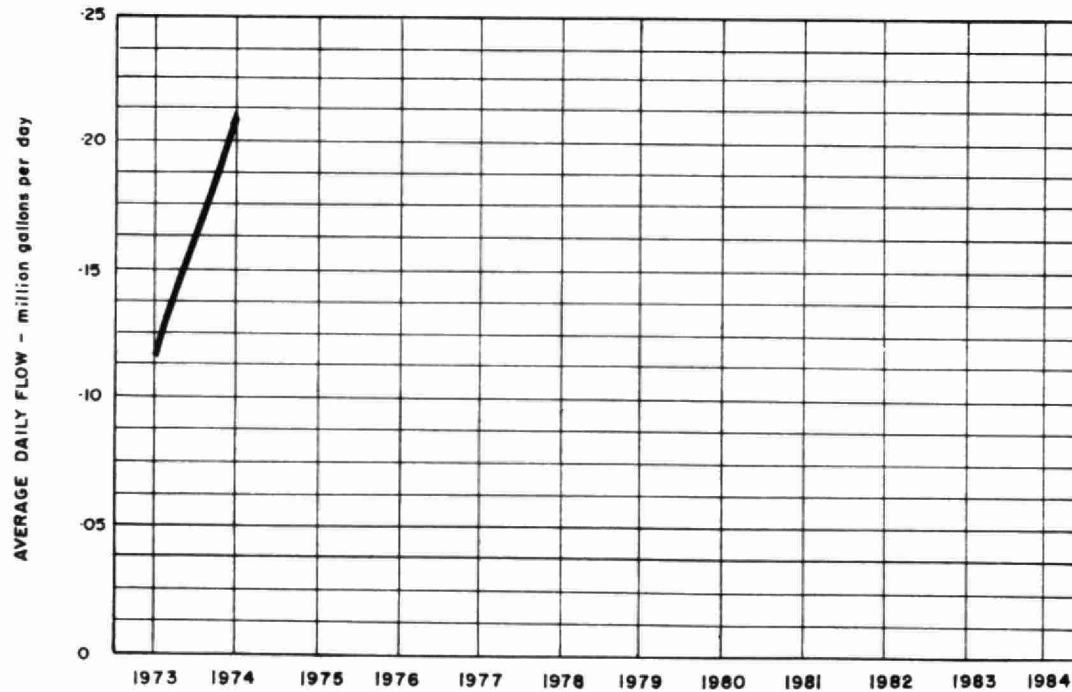
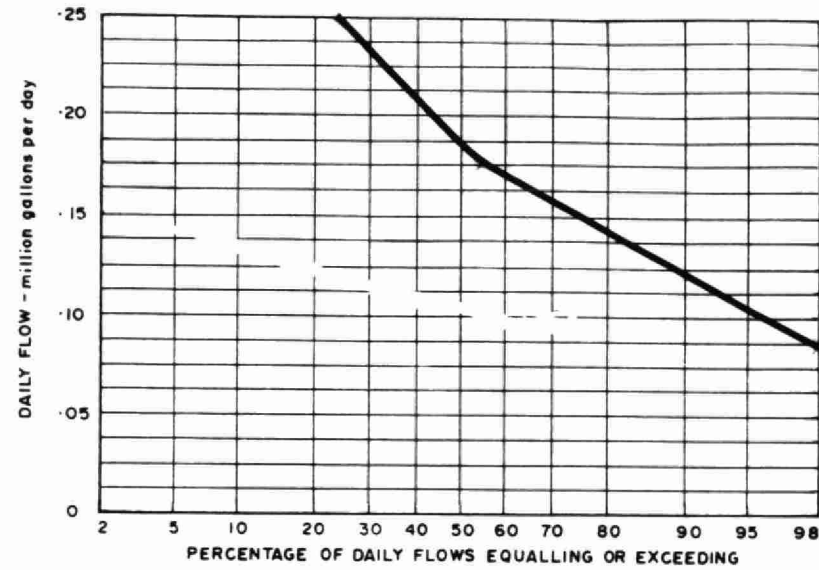
YEAR	SEWAGE TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS	
			\$/M.G.	¢/lb BOD
1974	77.6	16,597	214	41

OPERATING EXPENDITURES

Regular Staff	\$ -	\$
Casual (Unclassified) Staff	2,817	
TOTAL SALARIES AND WAGES		2,817
TOTAL EMPLOYEE BENEFITS		-
TOTAL TRANSPORTATION AND COMMUNICATIONS		426
Insurance	205	
Sludge Haulage	-	
Repairs and Maintenance	8,252	
Other Services	18	
TOTAL SERVICES		8,475
Machinery and Equipment	293	
Chemicals	-	
Utilities	3,943	
Other Supplies and Equipment	643	
TOTAL SUPPLIES AND EQUIPMENT		4,879
TOTAL AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS		-
TOTAL TRANSFER PAYMENTS		-
OTHER TRANSACTIONS		-
GRAND TOTAL	GRAND TOTAL	\$ 16,597

PROCESS DATA

FLOWS

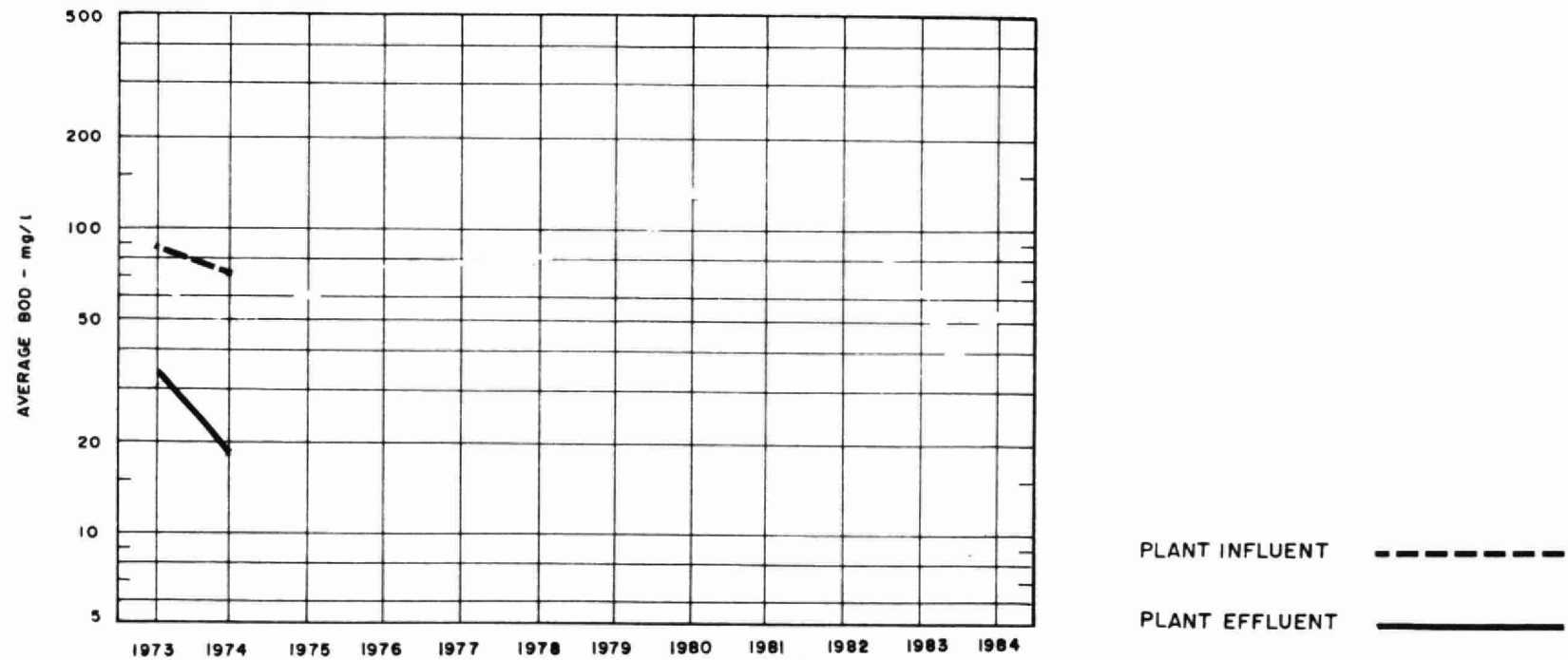
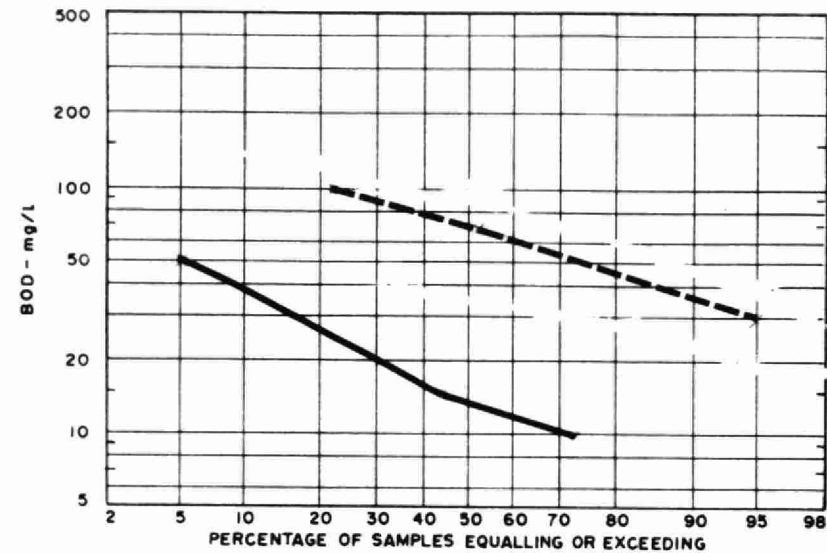


DESIGN CAPACITY 0.25 MGD

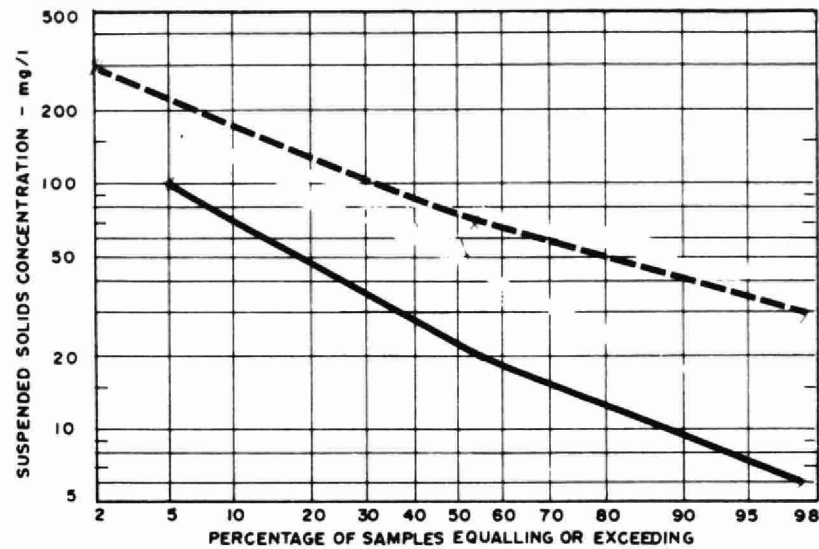
PLANT PERFORMANCE

MONTH	FLOWS			BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				PHOSPHORUS	
	TOTAL FLOW	AVERAGE DAY	MAXIMUM DAY	INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT
	million gallons	mil. gal	mgd	mg/l	mg/l	%	pounds	mg/l	mg/l	%	pounds	mg/l P	mg/l P
JAN	3.91	.13	.17	95	65	31	1	92	70	24	1	7.0	5.2
FEB	4.29	.15	.21	81	28	65	2	70	34	51	1	5.7	3.9
MAR	5.50	.18	.42	60	16	73	2	60	45	25	8	3.8	4.0
APR	5.56	.18	.33	73	22	70	3	93	45	52	3	5.2	3.7
MAY	10.47	.34	.69	49	26	47	2	70	55	21	2	3.6	2.7
JUNE	15.55	.52	.61	37	17	54	3	37	42			1.7	1.6
JULY	11.15	.36	.52	53	31	42	2	56	31	45	3	4.1	2.3
AUG	7.01	.23	.36	67	16	76	4	36	16	56	1	3.7	2.5
SEPT	4.07	.13	.22	64	10	84	2	93	11	88	3	4.6	3.2
OCT	4.00	.12	.14	69	8	88	2	142	8	94	5	4.4	3.9
NOV	3.09	.01	.10	115	12	90	3	135	10	93	4	7.9	3.3
DEC	3.03	.10	.11	103	10	90	3	136	8	94	4	6.9	3.9
TOTAL	77.63	-	-	-	-	-	40	-	-	-	50	-	-
AVG.		.21	MAXIMUM .69	71	19	73	3	93	28	70	4	4.9	3.2
No. of Samples	-	-	-	40	39	-	-	40	40	-	-	41	42

BIOCHEMICAL OXYGEN DEMAND

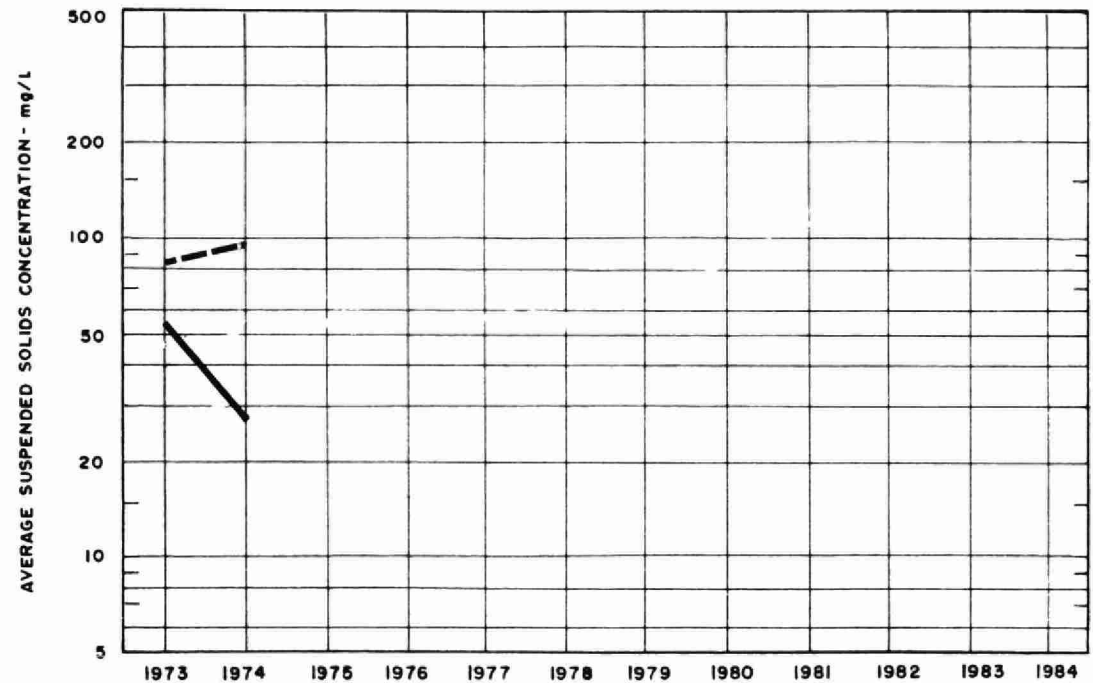


SUSPENDED SOLIDS

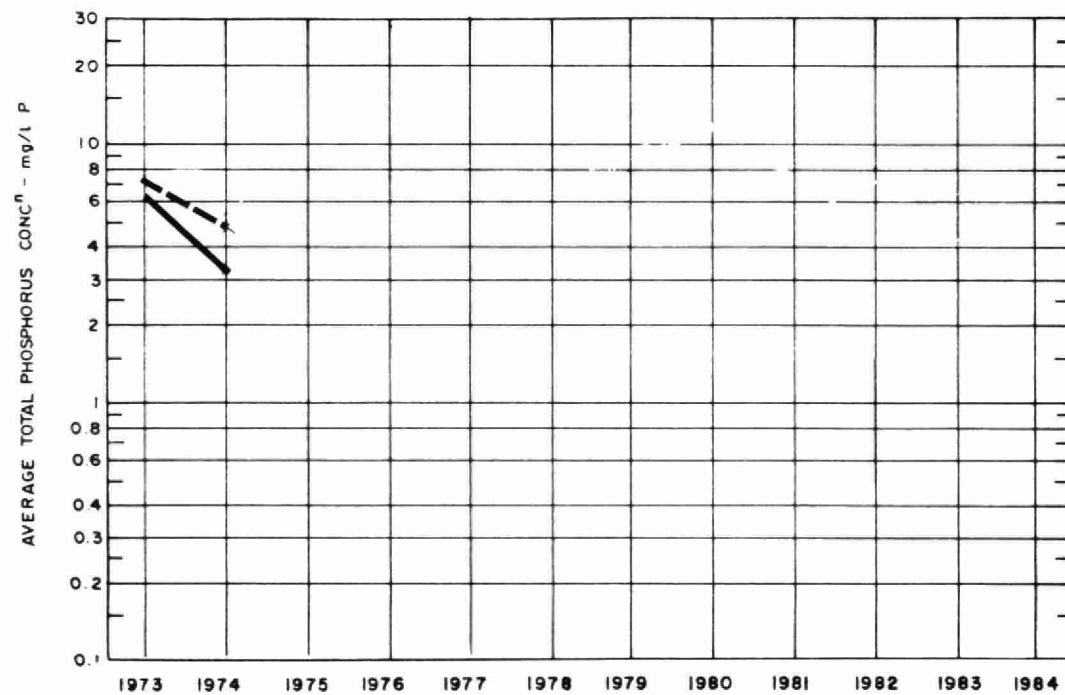
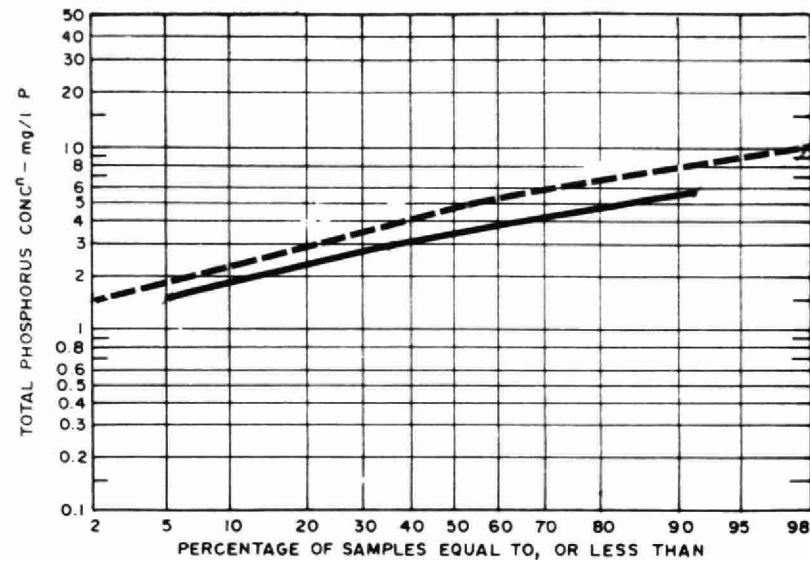


PLANT INFLUENT - - - - -

PLANT EFFLUENT —————



PHOSPHORUS



PLANT INFLUENT - - - - -

PLANT EFFLUENT —————

TREATMENT DATA

MONTH	GRIT	CHLORINATION		AERATION			WASTE SLUDGE			AEROBIC DIGESTER			
	QUANTITY REMOVED	Cl ₂ USED	AVG. DOSAGE	MLSS. CONC	F/M	AIR USED	QUANTITY	SUSPENDED SOLIDS	VOL. SOLIDS	QUANTITY REMOVED	SUSPENDED SOLIDS	VOL. SOLIDS	AMOUNT HAULED
	cubic feet	pounds	mg/L	mg/L	day ⁻¹	$\frac{1000 \text{ ft}}{\text{lb BOD}}$	10 gallons	mg/L	%	10 gallons	mg/L	%	cubic yards
JAN	35	0		7100	.01								
FEB	35	29		5400	.02								
MAR	42	0		5300	.02								
APR	44	0		6600	.01								
MAY	20	94		5500	.02								
JUNE	25	400		3800	.03								
JULY	0	425		4400	.03								
AUG	0	445		6500	.02								
SEPT	30	399		6600	.01								
OCT.	15	307		6600	.01								
NOV	30	294		7600	.01								
DEC	25	51		7900	.01								
TOTAL	301	2444	-	-	-	-		-	-		-	-	
AVG.	3.9 cu. ft/mil gal		4.2	6100	.01								

LABORATORY LIBRARY



96936000119121

Date Due

TD227/I46/W38/1974/MOE
Ontario Ministry of the En
Township of Ignace
water pollution atfx
c.1 a aa



PRINTED IN CANADA

Environment Ontario

Laboratory Library
125 Resources Rd.

Etobicoke, Ontario M9P 3V6
Canada